

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1-46 (Cancelled).

47. (Currently Amended) Process for the production of a multi-layer electrode or electrode assembly, wherein:

a first layer is rolled onto a carrier; ~~and~~
at least one additional ~~function~~ layer is produced by spraying on a powder after said first layer is rolled onto the carrier; and

said at least one additional layer is a function layer.

48. (Previously Presented) Process as defined in claim 47, wherein the powder is sprayed on dry.

49. (Currently amended) Process as defined in claim 47, wherein the first layer is rolled onto the carrier ~~roller application is brought about~~ by means of one or more heated rollers.

50. (Previously Presented) Process as defined in claim 47, wherein the carrier is designed as a carrier mesh.

51. (Withdrawn) Process as defined in claim 47, wherein the carrier is produced from a metallically conductive material.

52. (Withdrawn) Process as defined in claim 47, wherein the carrier is produced from high-grade steel.

53. (Withdrawn) Process as defined in claim 47, wherein the carrier is produced from silver-plated nickel.

54. (Withdrawn) Process as defined in claim 47, wherein the carrier is produced from titanium.

55. (Withdrawn) Process as defined in claim 47, wherein the carrier comprises an electrically non-conductive material, a conductive contact layer being or having been applied to said material.

56. (Currently Amended) Process as defined in claim 47, wherein a the sprayed-on function layer is a reaction layer.

57. (Currently Amended) Process as defined in claim 56, wherein a the reaction layer is produced by spraying on a catalyst carrier material on a carbon basis.

58. (Currently Amended) Process as defined in claim 57, wherein platinum is used as the catalyst carrier material.

59. (Withdrawn) Process as defined in claim 47, wherein a sprayed-on function layer is a barrier layer.

60. (Withdrawn) Process as defined in claim 59, wherein a mixture of carbon and a hydrophobing material is used for forming a barrier layer.

61. (Withdrawn) Process as defined in claim 60, wherein PTFE is used as hydrophobing material.

62. (Withdrawn) Process as defined in claim 59, wherein the barrier layer has a surface density in the range of between 0.3 mg/cm² and 1 mg/cm².

63. (Withdrawn) Process as defined in claim 47, wherein a carrier structure is produced by rolling carbon powder onto a carrier.

64. (Withdrawn) Process as defined in claim 63, wherein the carbon powder is rolled on mixed with a binding agent.

65. (Withdrawn) Process as defined in claim 64, wherein a hydrophobing material is used as binding agent.

66. (Withdrawn) Process as defined in claim 64, wherein PTFE is used as binding agent.

67. (Withdrawn) Process as defined in claim 63, wherein a pore-forming agent is added to the material to be rolled on.

68. (Withdrawn) Process as defined in claim 63, wherein the composition of the material to be rolled on and/or the particle size therein and/or a contact pressure during the roller application is adjusted.

69. (Withdrawn) Process as defined in claim 63, wherein the carrier structure is connected to a membrane.

70. (Withdrawn) Process as defined in claim 69, wherein a function layer is sprayed onto the carrier structure and/or onto the membrane prior to their connection.

71. (Withdrawn) Process as defined in claim 70, wherein prior to the connection between carrier structure and membrane a function layer is sprayed onto a connecting side of the membrane and an oppositely located side.

72. (Withdrawn) Process as defined in claim 71, wherein the respective spraying on is carried out simultaneously.

73. (Withdrawn) Process as defined in claim 70, wherein the function layer is a reaction layer.

74. (Withdrawn) Process as defined in claim 70, wherein the connection between carrier structure and membrane is brought about by roller application.

75. (Withdrawn) Process as defined in claim 69, wherein an additional carrier structure is connected to the carrier structure-membrane connection.

76. (Withdrawn) Process as defined in claim 75, wherein the additional carrier structure is rolled on.

77. (Withdrawn) Process as defined in claim 75, wherein the additional carrier structure is built up essentially in the same way as the carrier structure first connected to the membrane.

78. (Withdrawn) Process as defined in claim 75, wherein the additional carrier structure is produced essentially in the same way as the carrier structure first connected to the membrane.

79. (Withdrawn) Process as defined in claim 69, wherein an electrode-membrane unit for a fuel cell is formed.

80. (Previously Presented) Process as defined in claim 47, wherein the first layer is a rolled-on reaction layer.

81. (Previously Presented) Process as defined in claim 80, wherein a barrier layer is sprayed onto the rolled-on reaction layer.

82. (Currently Amended) Process as defined in claim 80, wherein:
said carrier is an electrically non-conductive carrier; and
a contact layer is sprayed onto said ~~an~~ electrically non-conductive carrier.

83. (Currently Amended) Process as defined in claim 82, wherein:
~~essentially the same material as for the barrier layer is used~~
for the contact layer comprises a barrier layer.

84. (Currently Amended) Process as defined in claim ~~81~~ 82, wherein:
the function layer comprises a barrier layer; and
the barrier layer and the contact layer are sprayed onto
opposite sides of the carrier at the same time.

85. (Previously Presented) Process as defined in claim 80, wherein a membrane is arranged on an outer function layer.

86. (Withdrawn) Fuel cell electrode assembly produced according to the process of claim 47 wherein:

a carrier structure is produced during the rolling step by rolling carbon powder onto a carrier, said carrier being connected to a membrane.

87. (Withdrawn) A gaseous diffusion electrode produced according to the process of claim 47.

88. (Withdrawn) An oxygen-consuming electrode produced according to the process of claim 47.

89. (Withdrawn) An electrode produced by the process of claim 47 having a catalytically active reaction layer, wherein a barrier layer produced by means of a sprayed on powder is arranged on the reaction layer.

90. (Withdrawn) Electrode as defined in claim 89, wherein the barrier layer is formed by a mixture of carbon and a hydrophobing material.

91. (Withdrawn) Electrode as defined in claim 90, wherein the hydrophobing material is PTFE.

92. (Withdrawn) Electrode as defined in claim 89, wherein the barrier layer has a surface density in the range of between 0.4 mg/cm² and 0.8 mg/cm².